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Amendments to the Claims

Please amend the claims as shown in the below complete listing of all of the claims with status identifier for every claim that is set forth below;

1. (Currently Amended) A process for forming a nanosize ceramic powder comprising:

forming a precursor ceramic material comprising a fugitive constituent and a non-soluble constituent in a single phase;

decomposing the fugitive constituent to leave the non-soluble constituent by
contacting the precursor material with a selective solvent to form a solution of the fugitive constituent in the solvent and a non-dissolved residue of the non-soluble constituent,

the precursor material sufficiently reactive with the solvent to form the solution of the fugitive constituent in the solvent and form the non-dissolved residue of the non-soluble constituent,

the precursor material and the non-soluble residue sufficiently insoluble in the solvent such that there is essentially no precursor material and non-soluble residue in the solution that will deposit and precipitate upon the residue of the non-soluble-constituent,

~~the fugitive constituent being sufficiently soluble in the solvent such that from the solution of the fugitive constituent essentially no fugitive constituent will deposit and precipitate the~~
decomposing is without deposition or precipitation of dissolved fugitive constituent upon the residue of the non-soluble constituent,

removing the solution of the fugitive constituent from the residue to form a nanosize powder of the residue of the non-soluble constituent.

2. (Withdrawn) The process as in Claim 1 wherein the precursor is $\text{BaCe}_{(1-x)}\text{RE}_x\text{O}_{3-\delta}$ or $\text{SrCe}_{1-x}\text{RE}_x\text{O}_{3-\delta}$ and the composition of the nanosize powder is $\text{Ce}_{1-x}\text{RE}_x\text{O}_{2-\delta}$ where RE is a rare earth metal or Y, x is between 0 and about 0.25, and S is between 0 and about 0.13.

3. (Currently Amended) The process as in Claim 1 wherein the precursor is $\text{BaZr}_{(1-x)}\text{RE}_x\text{O}_{3-\delta}$ $\text{SrZr}_{1-x}\text{RE}_x\text{O}_{3-\delta}$ or $\text{BaZr}_{1-x}\text{RE}_x\text{O}_{3-\delta}$ and the composition of the nanosize powder is $\text{Zr}_{1-x}\text{RE}_x\text{O}_{2-\delta}$ where RE is a rare earth metal or Y, x is between 0 and about 0.25, and S is between 0 and about 0.13.

4. (Original) The process as in Claim 1 wherein the composition of the resultant nanosize powder is Al_2O_3 .

5. (Withdrawn) The process as in Claim 3 wherein the precursor is selected from the group consisting of BaAl_2O_4 , $\text{Ba}_3\text{Al}_2\text{O}_6$, and NaAlO_2 .

6. (Withdrawn) The process as in Claim 1 wherein the composition of the resultant nanosize powder is Cr_2O_3 .

7. (Withdrawn) The process as in Claim 6 wherein the precursor is MgCr_2O_4 .

8. (Original) The process as in Claim 1 wherein the composition of the resultant nanosize powder is ZrO_2 .

9. (Original) The process as in Claim 8 wherein the precursor is BaZrO_3

10. (Withdrawn) The process as in Claim 1 wherein the composition of the resultant nanosize powder is TiO_2 .

11. (Original) The process as in Claim 10 wherein the precursor is MgTiO_3 , or Mg_2TiO_4 .

12. (Withdrawn) The process as in Claim 1 wherein the composition of the non-soluble constituent and the nanosize powder is V_2O_5 .

13. (Withdrawn) The process as in Claim 12 wherein the precursor is Na_4V_2O .

14. (Original) The process as in Claim 1 wherein the selective solvent is water.

15. (Currently Amended) A process for forming a nanosize ceramic powder comprising:

forming a precursor ceramic material comprising a fugitive constituent and a non-soluble constituent in a single phase;

decomposing the fugitive constituent to leave the non-soluble constituent by contacting the precursor material with a selective solvent to form a solution of the fugitive constituent in the solvent and a non-dissolved residue of the non-soluble constituent,

the precursor material sufficiently reactive with the solvent to form the solution of the fugitive constituent in the solvent and form the non-dissolved residue of the non-soluble constituent,

the precursor material and the non-soluble residue sufficiently insoluble in the solvent such that there is essentially no precursor material and non-soluble residue in the solution that will deposit and precipitate upon the residue of the non-soluble-constituent,

the fugitive constituent being sufficiently soluble in the solvent such that the decomposing is without deposition or precipitation of dissolved fugitive constituent upon the residue of the non-soluble constituent,

removing the solution of the fugitive constituent from the residue to form a nanosize powder of the residue of the non-soluble constituent,

~~The process as in Claim 1 wherein the selective solvent is an acid.~~

16. (Original) The process as in Claim 15 wherein the acid is selected from the group consisting of HNO₃, HCl, H₂CO₃, and H₂SO₄.

17. (Original) The process as in Claim 15 wherein the acid is contacted with the precursor with an acid gas.

18. (Original) The process as in Claim 17 wherein the acid gas is SO₃, N₂O₅, CO₂ or HCl.

19. (Original) The process as in Claim 1 wherein the selective solvent is a reacting gas dissolved in a non-aqueous polar solvent.

20. (Original) The process as in Claim 19 wherein the polar solvent is selected from the group consisting of formamide, N-Methyl-acetamide, N-Methyl-formamide, N-Methyl-propionamide, propylene carbonate, and ethylene carbonate, and the reacting gas is selected from the group consisting of CO₂, SO₃, SO₂ and N₂O₅.

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Canceled)

25. (Canceled)